

**** NOT FOR PRINTED PUBLICATION ****

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION

HEARING COMPONENTS, INC.,	§	
	§	
<i>Plaintiff,</i>	§	Civil Action No. 9:07-CV-104
	§	
v.	§	JUDGE RON CLARK
	§	
SHURE, INC.	§	
	§	
<i>Defendant.</i>	§	

**ORDER GRANTING IN PART DEFENDANT’S MOTION FOR JUDGMENT AS A
MATTER OF LAW ON INFRINGEMENT**

Plaintiff Hearing Components, Inc. filed suit against Defendant Shure, Inc. claiming infringement of United States Patent Nos. 4,880,076; 5,002,151; and 5,401,920. The ‘076 and ‘151 patents are directed toward a hearing aid ear piece or other sound transmission device connected to a disposable compressible foam sleeve. The jury returned a verdict:

- (1) finding infringement of claims 17 and 36 of the ‘076 patent and claims 1 and 13 of the ‘151 patent for Shure’s products both with a barb (i.e., SCL3; SCL4; SE210; and SE11) and with a straight nozzle (i.e., i2c; i3c; i4c; and SCL5);
- (2) finding no invalidity on obviousness grounds; and
- (3) awarding damages in the total amount of \$ 4,622,999.00. *See* Doc. # 158.

Now before the court is Shure’s motion for judgment as a matter of law (“JMOL”) on non-infringement [Doc. # 148].

The evidence is legally insufficient to support a finding that Shure’s straight nozzle products infringe the asserted claims of the patents-in-suit. Shure’s motion for JMOL of non-

infringement is granted in part. The remainder of Shure's motion for JMOL of non-infringement is denied.

I. Standard of Review

A motion for judgment as a matter of law ("JMOL") is granted when there is no legally sufficient evidentiary basis for a reasonable jury to find for the party on an issue on which that party has been fully heard. *Reeves v. Sanderson Plumbing*, 530 U.S. 133, 150, 120 S. Ct. 2097, 2110 (2000). In entertaining a motion for judgment as a matter of law, the court must review all of the evidence in the record. *Id.* In doing so, "the court must draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Id.* This is because "[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge." *Id.*

Thus, although the court should review the record as a whole, it must disregard all evidence favorable to the moving party that the jury is not required to believe. *Id.* That is, the court should give credence to the evidence favoring the non-movant as well as that "evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that evidence comes from disinterested witnesses." *Id.*

II. Analysis

Shure argues that HCI failed to produce evidence at trial sufficient for a reasonable jury to find infringement¹ of the four asserted claims. Specifically, Shure alleges that HCI failed to establish literal infringement of the "fastening means" clause in claims 17 and 36 of the '076

¹HCI asserted only literal infringement at trial.

patent and claims 1 and 13 of the ‘151 patent, because HCI did not show that the accused earphones included a structure identical or equivalent to those in the court’s construction.

A. Applicable Law

“Literal infringement of a claim limitation in means-plus-function format requires that the relevant structure in the accused device perform the identical function recited in the claim and be identical or equivalent to the corresponding structure in the specification.” *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008). The test of means-plus-function structural equivalency is “whether the differences between the structure in the accused device and any disclosed in the specification are insubstantial.” *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1309 (Fed. Cir. 1998). A structural equivalent “must have been available at the time of the issuance of the claim.” *Welker Bearing*, 440 F.3d at 1099.

A reduced version of the well-known tripartite test for the doctrine of equivalents has been applied in the Section 112, Paragraph 6 context to determine if the differences are insubstantial, i.e., after determining that the accused device performs the identical function, as required by statute, whether it performs the function in substantially the same way to achieve substantially the same result.

IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1435 (Fed. Cir. 2000).

At the same time, “the context of an invention should be considered when performing a Section 112, Paragraph 6 equivalence analysis. . . As a result, two structures that are equivalent in one environment may not be equivalent in another.” *Id.* at 1436. While the statute requires that two structures be equivalent, “it does not require them to be ‘structurally equivalent.’”² *Id.*

²“The difference between ‘equivalent structures’ and ‘structural equivalents’ can be demonstrated with a simple example. . . A claim includes part A, part B, and ‘means for securing parts A and B together in a fixed relationship.’ The written description discloses that parts A and B are made of wood and are secured together by nails. For purposes of the invention, it does not matter how parts A and B are secured; nails are not a critical part of the invention. A screw is

Rigid comparison of physical structures in a vacuum may therefore be inappropriate in a particular case.

B. Court's Construction of "Fastening Means"

In its claim construction order, the court construed two "fastening means" terms in the '076 patent: "fastening means at one end thereof for disposably attaching the duct to said ear piece" (claim 17) and "means fastened to the proximal end of said foam for disposably attaching said sleeve to a sound transmission device" (claim 36). The function for both terms was the same: "attaching the end of the duct to the ear piece in such a way that it can easily be removed and discarded by the user so that another sleeve can be attached." The structure was also identical for both terms:

(1) A duct to which a foam sleeve is firmly secured by (a) being molded onto the duct or (b) a layer of adhesive cement where: (i) The duct and ear piece are connected using mating screw threads; (ii) The duct and ear piece are connected using a bayonet or ball-and-socket attachment; (iii) The duct and ear piece are connected using a layer of adhesive cement between the proximal end of the sleeve and the distal end of the ear piece; and

(2) Equivalents thereof.

Doc. # 118, at p. 18.

The court also construed two very similar "attaching means" terms in the '151 patent: "means on said exterior surface for disposably attaching the duct of the sleeve to said connecting portion" (claim 1) and "means on said exterior surface for disposably attaching said duct of said

not a nail, but for purposes of Section 112, Paragraph 6, it is equivalent structure in the context of the invention, though it is not the 'structural equivalent' of a nail." *IMS Tech*, 206 F.3d at 1436, n.3.

sleeve to said connecting portion in said central longitudinal passage” (claim 13).³ The function for both terms was the same: “attaching the duct of the sleeve to the connecting portion in such a way that it can easily be removed and discarded by the user so that another sleeve can be attached.” The structure was also identical for both terms:

(1) A duct to which a foam sleeve is firmly secured by (a) being molded onto the duct or (b) a layer of adhesive cement where: (i) The duct and ear piece are connected using mating screw threads; (ii) The duct and ear piece are connected using a bayonet or ball-and-socket attachment; (iii) The duct and ear piece are connected using a layer of adhesive cement between the proximal end of the sleeve and the distal end of the ear piece; and

(2) Equivalents thereof.

Doc. # 118, at p. 20.

C. ‘076 Patent

1. *Whether identical structure exists*

HCI did not argue, either in its response to Shure’s motion or at trial⁴, that any of Shure’s accused devices contained a structure *identical* to the screw threads; bayonet/ball-and-socket attachment; or layer of adhesive cement identified by the court as the relevant structures; rather, the entire focus of HCI’s infringement case was that Shure’s devices contained equivalent structures. HCI’s specific theory was that Shure’s devices contained a structure equivalent to a

³This phrase is actually found in independent claim 12 of the ‘151 patent, which was not asserted. Claim 13 is dependent from claim 12.

⁴See trial testimony of HCI’s infringement and invalidity expert Dr. Marshall Chasin, Tr. at p. 428, l. 10 - p. 430, l. 1.

duct with a foam sleeve, where the duct and the ear piece are connected using screw threads or a ball-and-socket attachment.⁵ The court will therefore focus its analysis in this area.

2. *Whether equivalent structure exists*

a. **Structure of Shure devices**

Shure's devices can be found in two forms – barbed and non-barbed (i.e., straight nozzle). The non-barbed or straight nozzle devices are shown in PX 10. A barbed nozzle is depicted in PX 11, and consists of a straight nozzle with a cap fitted over the end, such that there is a ridge between the cap and the nozzle. The nozzle, be it straight or barbed, is part of, and protrudes from, the ear piece.

HCI's infringement and invalidity expert, Dr. Chasin, testified that all Shure devices – both barbed and straight nozzle – have what he termed a “uniform annular projection” (UAP). Dr. Chasin described the UAP as a cylindrical – or “annular” – uniform projection that runs the entire length of the external sound connecting portion. Tr. at p. 419, ll. 3-12. For visualization purposes, Dr. Chasin used the example of two straws, where straw one has a slightly larger diameter than straw two. Straw two – the external sound connecting portion – would fit inside straw one – the UAP. Straws one and two together would be the nozzle, which has two integrally molded layers. Tr. at p. 422, ll. 2-25.

⁵HCI somewhat confusingly argues that even though Dr. Chasin's infringement analysis considered only the structural equivalents of screw threads and a ball-and-socket connection, Shure's contention that the equivalents analysis must be constrained to these two structures is incorrect. However, HCI bears the burden of demonstrating infringement by a preponderance of the evidence. It does not dispute that Dr. Chasin only opined on whether Shure's accused devices were structurally equivalent to the screw threads and a ball-and-socket attachment. Therefore, whatever theory of non-infringement Shure offers, even if it “ignored the claim construction, ignored the context of the invention, and was belied by common sense” as HCI contends, is of little consequence if HCI does not carry its burden of proof on infringement.

The nozzle is then inserted into the duct of the foam sleeve, thus forming a connection between the foam sleeve and the earpiece. According to Dr. Chasin, the UAP – the outer layer of the nozzle – interferes with the duct, causing it to deform outwards and maintain the connection between the duct and the earpiece. Tr. at p. 421, ll. 3-17. Dr. Chasin termed this an “interference” fit, which occurs:

when you have a structure that interferes with another series of structures such as a duct on the foam sleeve. So a structure might be a uniform annular projection with – which deforms the foam sleeve causing outward pressures to hold it in place so it[']s retained a little bit better.

Tr. at p. 401, ll. 18-21. When the barb is present on the nozzle, Dr. Chasin testified that both the UAP and the barb deform the duct. Tr. at 401, l. 25 - p. 402, l. 3.

b. Straight nozzle

Shure does not argue that the straight nozzle does not perform the claimed function of attaching the end of the duct to the ear piece in such a way that it can easily be removed and discarded by the user so that another sleeve can be attached. Instead, Shure merely disputes whether the structure performing that function – the straight nozzle – can be considered an equivalent to the screw thread or ball-and-socket structures in the court’s construction. After reviewing all the evidence, even drawing all reasonable inferences in favor of HCI as it must do, the court finds that there is not legally sufficient evidence in the record from which a reasonable jury could have found that Shure’s straight nozzle devices contain the “fastening means” in claims 17 and 36 of the ‘076 patent.

Dr. Chasin testified that the UAP outer layer of the straight nozzle would deform the duct outward, thus keeping the nozzle in the duct and the foam sleeve and ear piece connected. Tr. at

p. 42138, ll. 15-17. In other words, he suggests that a straight sound tube – what he terms the UAP – is a structure equivalent both to screw threads and a ball-and-socket attachment. With respect to the former, Dr. Chasin testified that screw threads are little more than projections on the exterior surface of the connecting tube that run the length of the nozzle and that the UAP, because it forms an extra layer on top of the connecting tube, is “akin to having all the valleys of the screw thread[s] filled in such that all the peaks are uniformly all one level.” In other words, the screw threads are the UAP with “some parts of it missing.” Tr. at p. 431, l. 17 - p. 432, l. 8. For the ball-and-socket attachment, Dr. Chasin testified that the UAP is the equivalent of the “ball” portion of the attachment because both deform the duct. Tr. at p. 497, l. 16 - p. 498, l. 7.

The problem with HCI’s argument is that there is no support for Dr. Chasin’s theory of a UAP as a structure at all, much less one which performs the claimed function in substantially the same way to achieve substantially the same result as the screw threads or ball-and-socket attachment. Dr. Chasin admits that if his theory is rejected, Shure’s accused non-barbed devices do not infringe. Tr. at p. 484, ll. 4-21. He also admitted the term UAP is not found anywhere in the patent, and that he “coined that [phrase] specifically for this lawsuit.” Tr. at p. 470, ll. 7-20. Dr. Chasin conceded that the term is not found in any Shure drawings or engineering textbooks, and that he has no basis whatsoever for saying that Shure’s nozzles are “integrally molded” since he does not know how they are made. Tr. at p. 476, ll.2-14; p. 477, ll. 5-15. Having never looked at the Shure drawings for the accused devices, Dr. Chasin actually has no idea whether his concept of nozzles with an integrally molded UAP upper layer and external sound connecting portion lower layer exists in Shure’s products.

Even if the UAP could somehow be considered to both exist and be a structure, the idea that simply increasing the overall diameter of the nozzle by adding a uniform layer on top of the connecting portion constitutes a structural equivalent to screw threads or a ball-and-socket attachment strains credulity. The structural equivalent must attach the end of the duct to the ear piece in such a way that it can easily be removed and discarded by the user so that another sleeve can be attached. In the broadest sense, what all the enumerated structures have in common is some kind of protuberance (bayonet and screw threads), snap connection (ball-and-socket), or adhesion (adhesive cement), that somehow keeps the ear piece and the duct connected. At best, all the UAP does is increase the overall diameter of the nozzle in a uniform manner. There is no protuberance; snap connection; adhesion; or any other positive attachment that would keep the duct and ear piece connected.

If Dr. Chasin's UAP, which would use no positive attachment to perform the claimed function, can be considered equivalent, it is difficult to imagine what would not be. The differences between Dr. Chasin's UAP – which allegedly fills in the “valleys” of the screw threads so that all the “peaks are uniformly all on level” – and the screw threads/ball-and-socket attachment are therefore not insubstantial. Based on the record, no reasonable jury could have found in favor of HCI regarding the straight nozzle products.

c. Barbed nozzle

The difficulty with HCI's infringement argument regarding Shure's straight nozzle products is only emphasized when the straight and barbed nozzle devices are compared. Unlike the straight nozzle, the barbed nozzle contains a cap-like structure at the end. The chief difference between the straight and barbed nozzle analyses is that a finding of infringement

regarding the barbed nozzle products does not hinge on the jury's belief in Dr. Chasin's litigation-created and unsupported UAP theory. Even assuming the UAP does not exist, the barbed nozzle still has a protuberance resembling a cap that is not uniform along the entire length of the nozzle. The barbed nozzle provides some structure to perform the claimed function, which the straight nozzle lacks.

Viewing the evidence in the light most favorable to HCI, the court finds that a reasonable jury could have found that the difference between the barbed nozzle and the screw threads or ball-and-socket attachment were insubstantial. Like the screw threads and the ball portion of the ball-and-socket attachment, the barb protrudes from the connecting portion. By doing so, it can distort the duct and act as an impediment to breaking the connection between the ear piece and duct. The court will therefore deny Shure's motion with respect to the barbed nozzle products.

D. '151 Patent

The structures for the relevant claim terms in the '076 and '151 patents are identical, and the functions are very similar. The function of the "fastening means" terms in the '076 patent is directed to attaching the duct to the ear piece so as to easily remove the sleeve, while the function of the "attaching means" terms in the '151 patent is directed to attaching the duct to the connecting portion of the ear piece. The parties' motion papers adopt the same arguments with respect to both patents, and the court finds that there is no difference in the non-infringement analysis between the patents. Therefore, Shure's motion is granted with respect to the straight nozzle products and denied for the barbed nozzle products.

IT IS THEREFORE ORDERED that Defendant Shure, Inc.'s Motion for Judgment as a Matter of Law on Non-Infringement [Doc. # 148] is GRANTED IN PART. The court will strike the portion of the jury verdict awarding damages for infringement by Shure's straight nozzle products, which totals \$3,230,635.00. The remainder of the jury verdict, \$1,392,364.00 for infringement by Shure's barbed nozzle products, will stand.

So **ORDERED** and **SIGNED** this **6** day of **March, 2009**.

A handwritten signature in black ink, appearing to read "Ron Clark", is written above a horizontal line.

Ron Clark, United States District Judge